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Abstract		
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Agenda

Session 1B - TSWG Overview :

What is it, and what is its purpose?

Session 2B: New Technology and Training for Combating Chemical and Biological Terrorism :

Ongoing Development Efforts and Products



TSWG Mission

Conduct the national interagency research and development program for Combating Terrorism through rapid research, development, and prototyping

- Identify requirements, develop solutions, and fund and execute projects**
- Customize technology to specific user needs**
- Deliver capabilities to users within 18-36 months**



President's National Security S&T Strategy

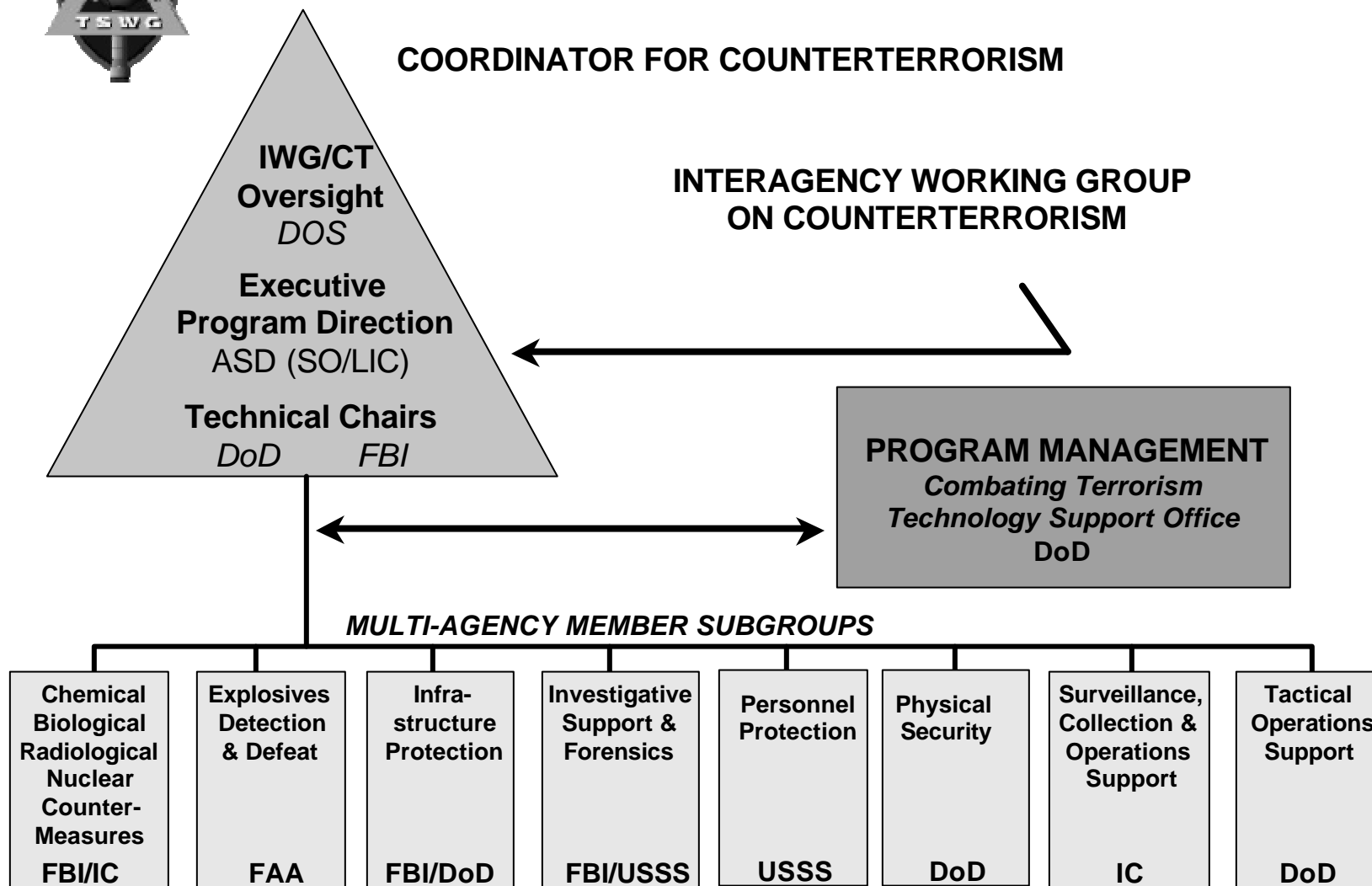
“Countering terrorism requires close day-to-day coordination among many Executive Branch agencies.... Part of the challenge is to identify needs, seek common approaches, and coordinate development of new technologies.... This is accomplished through the interagency Technical Support Working Group.”

Excerpts from the President's 1995 National Security Science and Technology Strategy



TSWG Structure

COORDINATOR FOR COUNTERTERRORISM





TSWG Members

Department of Defense

OASD(SO/LIC) CTPS
OATSD/CBDP
ODTUSD(P) PS/IP
OUSD(A&T) DDR&E and S&TS/LW
Defense Intelligence Agency
Defense Threat Reduction Agency
DoD Computer Forensics Laboratory
DoD Polygraph Institute
National Security Agency
The Joint Staff
Special Operations Command
Unified Commands
 European Command
 Central Command
US Air Force
 Air Combat Command
 Force Protection Battle Laboratory
 Force Protection System Programs Office
 Air Force Office of Special Investigation
US Army
 SBCCOM / ECBC
 Medical Institute for Infectious Diseases
 Office of the Chief of the Army Reserve
 Special Forces
 Technical Escort Unit
 Consequence Management Integration Office
US Marine Corps - CBIRF
US Navy
 JPO / STC
 Naval Criminal Investigative Service
 Naval Research Laboratory
 Naval Special Warfare
 NEODTD / DTRG
 Naval Surface Warfare Center (Dahlgren)

Department of State

Coordinator for Counterterrorism
Diplomatic Security
Foreign Building Operations

Department of the Treasury

Bureau of Alcohol, Tobacco and Firearms
US Customs Service
US Secret Service
 Forensic Services Division
 Technical Security Division
 Special Services Division

Department of Justice

Drug Enforcement Administration
Federal Bureau of Investigation
 Counterterrorism Planning Section
 WMD Operations Unit
 Hostage Rescue Team
 Laboratory Division
 Bomb Data Center
 Chemistry Unit
 Computer Analysis and Response Team
 Forensic Science Research and Training Center
 Hazardous Material Response Unit
 Questioned Documents Unit
National Domestic Preparedness Office
National Infrastructure Protection Center
Federal Bureau of Prisons
National Institute of Justice
US Marshals Service

Department of Agriculture

Animal and Plant Health Inspection Service
Food Safety and Inspection Service

Department of Energy

Defense Programs Elements
National Laboratories
Office of Safeguards and Security
Office of Energy Intelligence

Department of Health and Human Services/USPHS

Centers for Disease Control & Prevention
Food and Drug Administration
Office of Emergency Preparedness

Department of Commerce

National Telecommunications & Information Administration
National Institute of Standards and Technology
Office of Security

Department of Transportation

Intelligence and Security Division
U.S. Coast Guard
Federal Aviation Administration
 Office of Civil Aviation Security
 FAA Technical Center
 Office of Emergency Preparedness

Department of Veterans Affairs

Department of Interior

US Bureau of Reclamation

Other

Intelligence Community
Environmental Protection Agency
Federal Emergency Management Agency
General Services Administration - Federal Protective Service
US Postal Inspection Service
Nuclear Regulatory Commission



Requirements

- Threat/Operational Scenario - How the capability will be used.
- Research/Rationale - What systems are available today and specific shortcomings.
- Specific Requirements - size, weight, agents, cost.
- Logistics/Interoperability
- Users - DoD and others
- POC - User organization (Task Manager)



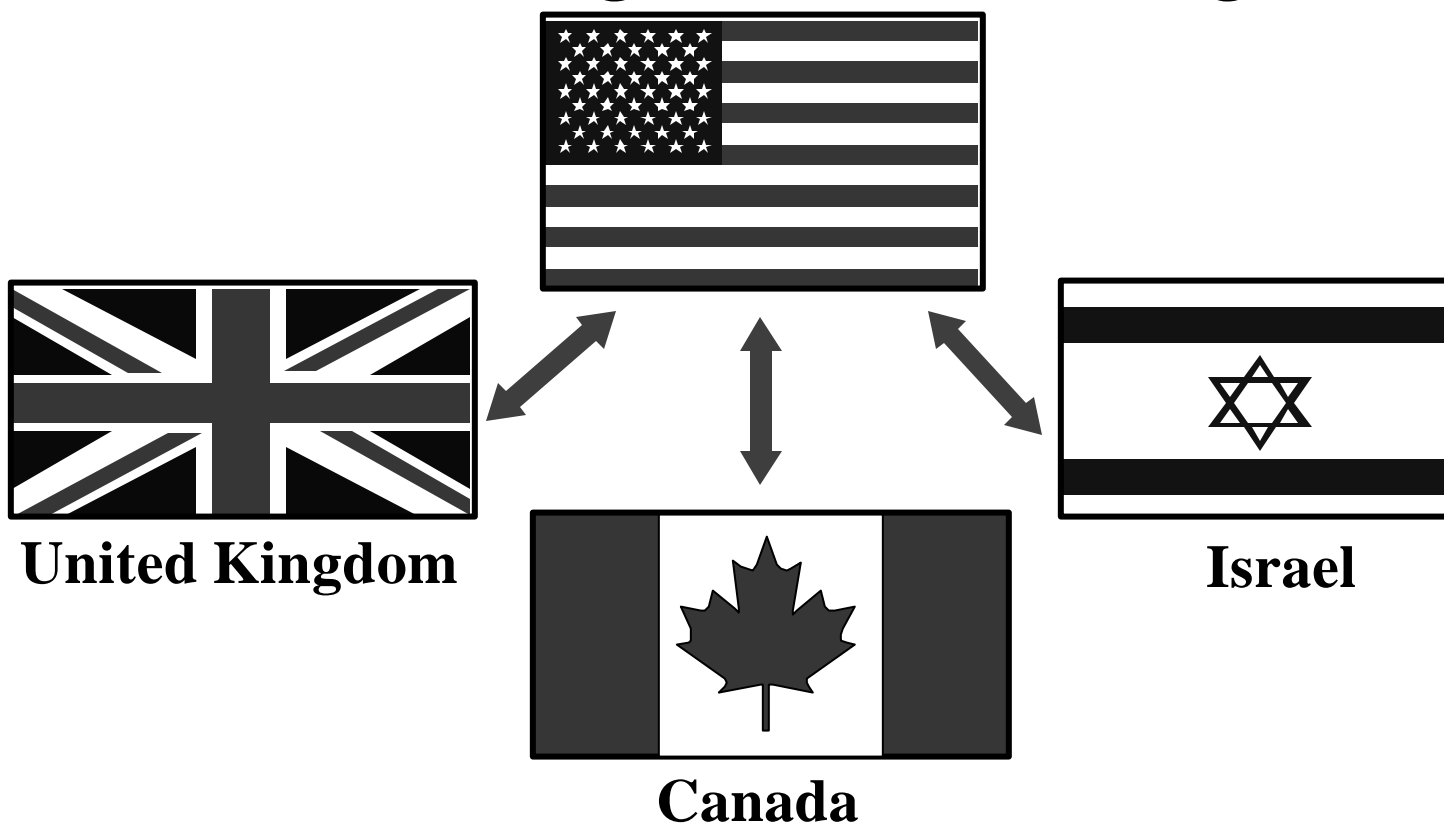
Business Process

- Users submit requirements to TSWG PM for Broad Agency Announcement (Competitive Solicitation for innovative ideas) – Due mid-Feb
- Advanced Program Briefing to Industry (3rd week in Feb)
- BAA advertised in Commerce Business Daily (March)
- Process begins (Quad Chart, White Papers, RFPs)



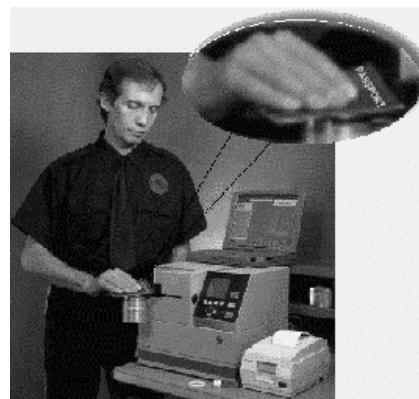
International Partners

Bilateral Combating Terrorism R&D Agreements



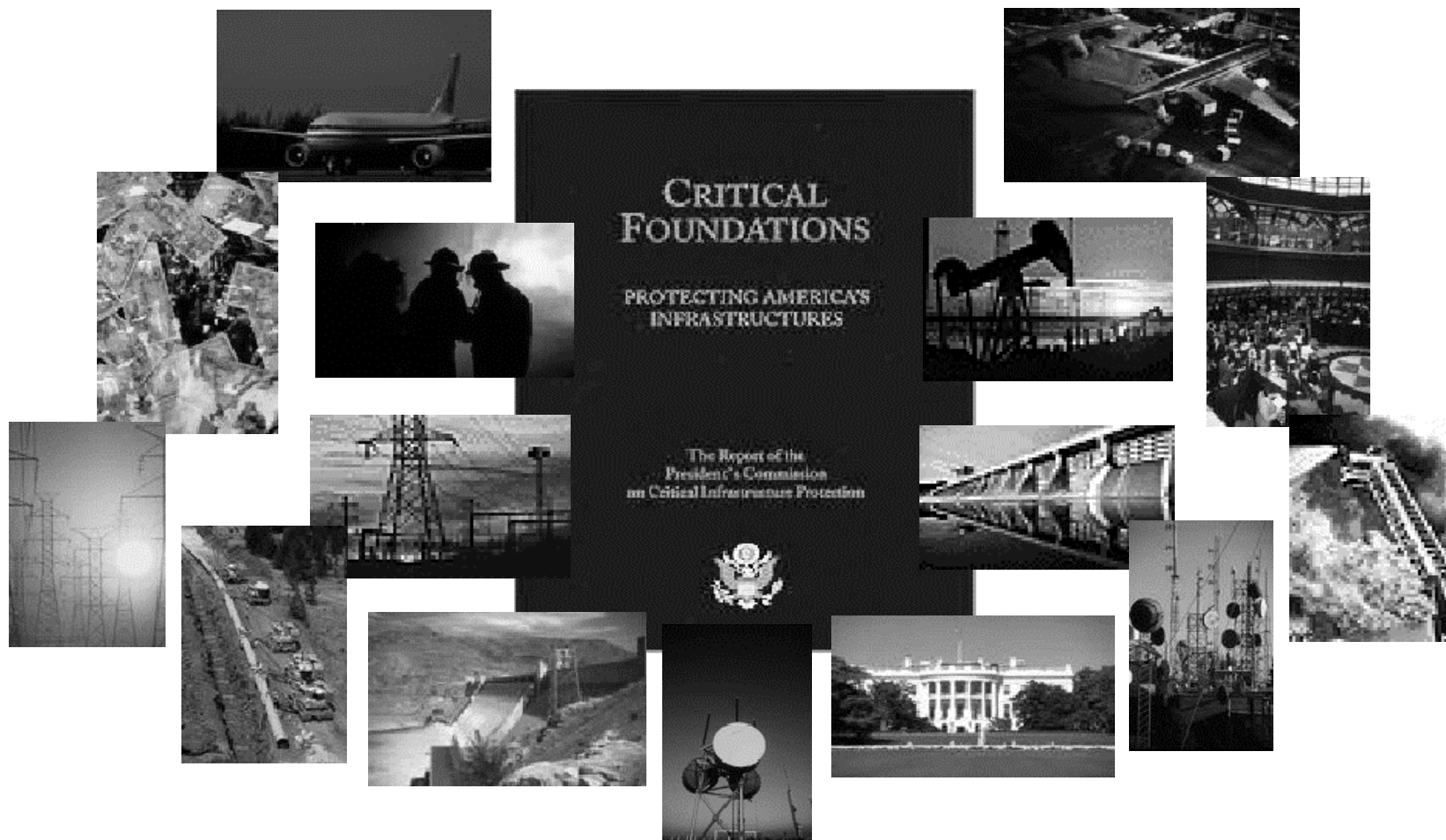


Explosives Detection and Defeat



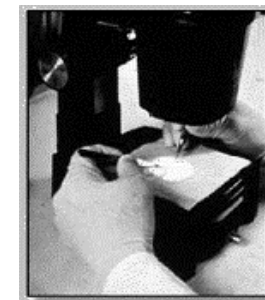
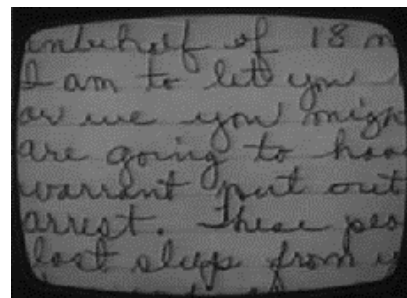
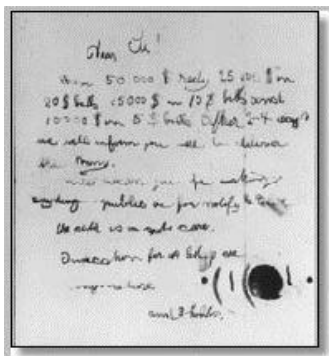
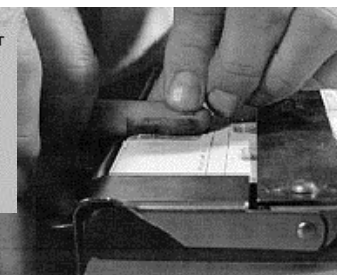
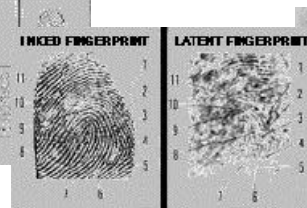
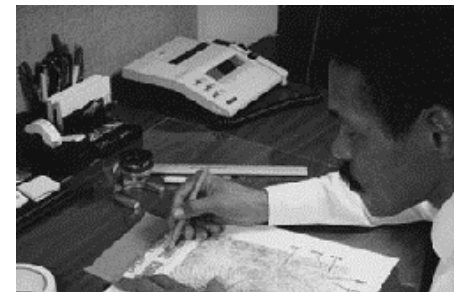
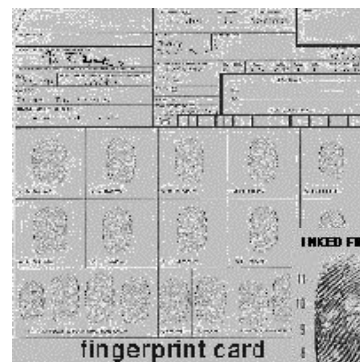
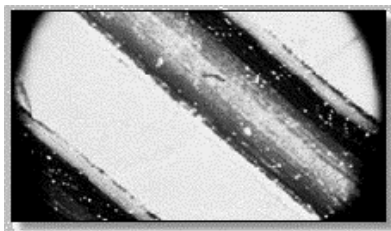
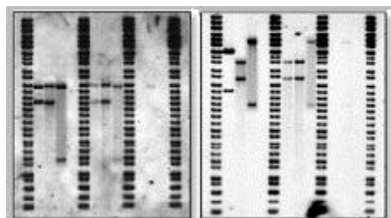


Infrastructure Protection





Investigative Support and Forensics



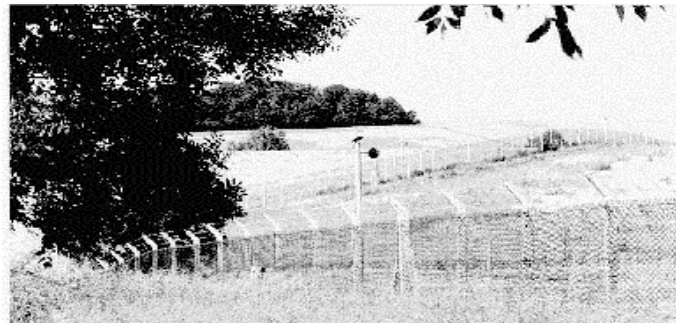
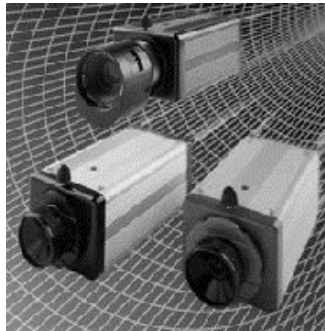


Personnel Protection



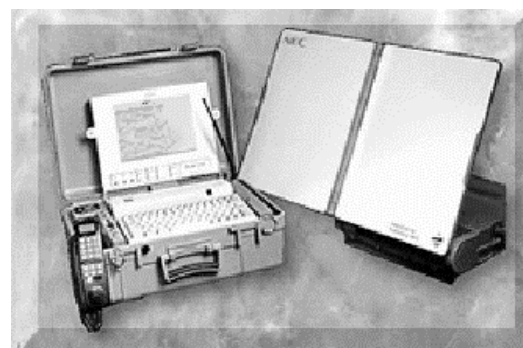
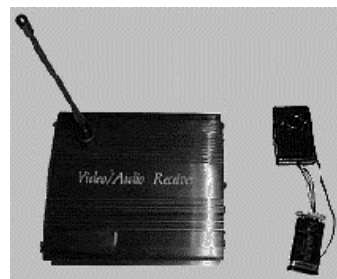


Physical Security



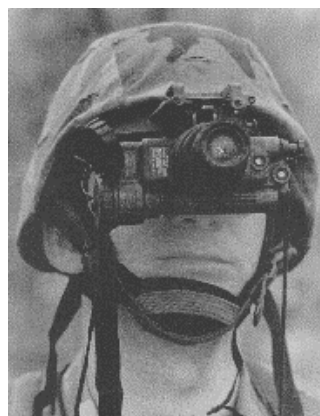
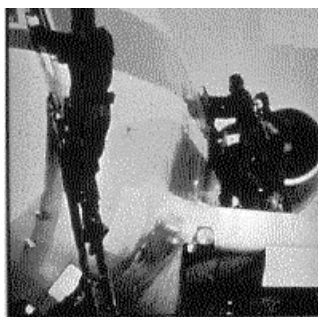


Surveillance, Collection, and Operations Support



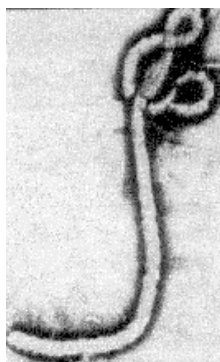


Tactical Operations Support

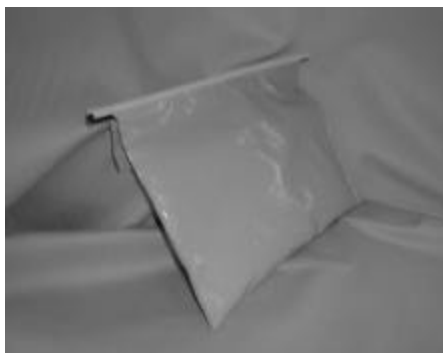
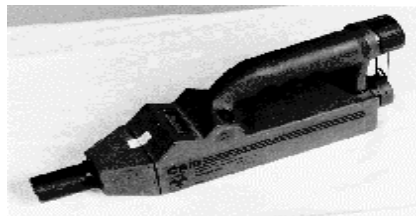




CBRN Countermeasures



JEFFREY MACMILLAN FOR USN&WR





CBRNC Mission

- **Identify interagency user requirements related to terrorist-employed chemical, biological, radiological, and nuclear material.**
- **Thrust areas include detection, protection, decontamination, containment, mitigation, and disposal.**



CBRNC Threats

- **Focus on Non-Battle Field Threats**
 - **Improvised Devices**
 - **Issues: Agent Purity, Ability to Protect and Detect**
 - **Toxic Industrial Chemicals Remain High Priority due to Costs and Availability**
- **Proliferation of “How to” Literature through the Internet**
- **Challenges of Urban Environment**



Summary



- **Forum to identify, prioritize, and fund needs/requirements**
- **National/interagency dimension**
- **International dimension - (Israel, UK, Canada)**
- **Dual use/commercialization**
- **Fast track and flexible program forum**
- **Successful equipment transitions to operational communities**

Questions?



Tracy Cronin

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New Technologies and Training for Chemical and Biological Terrorism



Ms. Tracy Cronin and Mr. Erik Chuba

Combating Terrorism Technology Support Office

Technical Support Working Group

Arlington, VA



Program Thrust Areas

- **Databases**
- **Personal Protective Equipment**
- **Detection**
- **Decontamination**
- **Training**



Ongoing Projects



Hazardous Materials Database

Requirement:

Handheld system that contains critical data, including toxicity levels and standard-off distances, on chemical agents, precursors and other hazardous materials.

Status:

CWA data incorporated and porting to Windows CE complete. Available for purchase from AristaTek.





Disposable Toxic Agent Protective System

Requirement:

Low-cost, disposable Level A, B, and C protective suits which provide full body C/B/TIC protection for First Responders, i.e., Law Enforcement, Fire Fighters, and EMS.

Status:

Testing completed. Commercialization pending final NFPA Standard 1994.

Expanded scope of effort to include development of BL-2/3 protective suits for USDA.





WMD Overpack Bags

Requirement:

Develop agent resistant (liquid and vapor) and durable overpack bags for safe transport of improvised CB devices and leaky military munitions.

Status:

Project completed. Overpacks will be available for purchase through GSA.

Waiting for confirmation on listing.





Escape Hood and Quick Mask Testing

Requirement:

Provide interagency users and law enforcement agencies with an escape hood/mask that provides at least 15 minutes protection in a CB environment and is safe and easy to use.



Status:

Testing and modifying commercial and prototype mask designs. Initiating follow-on effort to develop low-profile CW escape mask.



Biocontaminant Detection and Identification Strategies

Requirement: Modify existing surface sampling and analysis protocols that will support federal agency response teams. Effort will identify ideal surface sampling areas inside residential and office buildings.

Status: Determined detection limits for a variety of surfaces using current surface sampling methodologies.

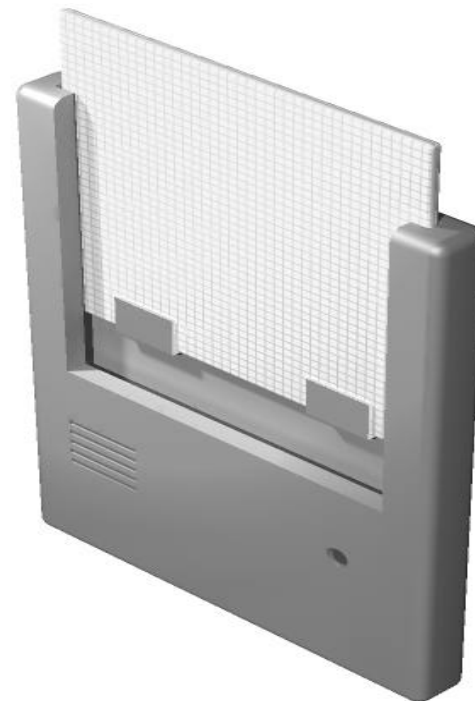




Personal Alarm Monitor

Requirement: Develop a small inexpensive sampler/ detector for the law enforcement community. The sampler will provide timely indications (visual or auditory alert) for nerve agents.

Status: Identifying suitable technologies that meet user requirements for reliability, sensitivity, packaging, and costs. This effort is funded by NIJ.





Mass Decontamination Protocols

Requirement: Validated guidelines for response personnel to cover the range of ages, health status and physical capabilities of the civilian population.

Status: Expert panel formed and four scenarios developed (persistent Chemical agent, non-persistent chemical agent, toxic industrial chemical and biological agent.) Reviewing scientific and operational data to develop guidelines.





Products



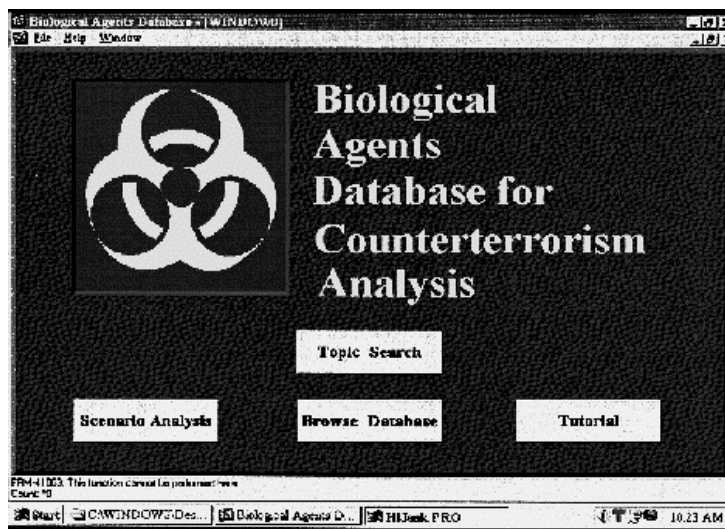
Biological Agent Characteristics Database

Requirement:

Develop a database containing pertinent characteristics of terrorist employed biological agents.

Status:

Human pathogen database available.
Plant and animal pathogens completed.
Classified and unclassified versions exist.





Chemical Agent Detector

Requirement:

Modify DoD M22 (ACADA/GID3)

IMS detector to include ID and specifications of expanded chemical threat agents (GF, AC, CK, CG, HN₃).

Data archival and date/time stamp.

Status:

Prototypes delivered. Development of next generation system with reduced size and false alarm rate underway.





Chem/Bio EOD Suit

Requirement:

Modified commercially-available EOD Suit to provide protection against Chem/Bio Hazards.

Status:

Evaluation of SRS-5 systems is ongoing. Project is joint funded by NIJ/TSWG. Provides protection through incorporation of CB garment under garment.





Real-Time Portable X-Ray System

Requirement:

Develop a one-man portable, very low cost x-ray system for real-time inspection of suspect parcels.

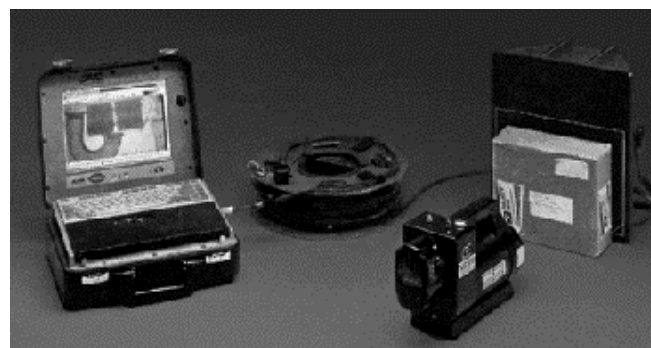
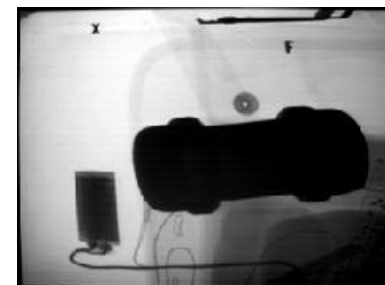
Status:

Joint Service EOD Contract - 705 units.

Postal Service - 60 units operational.

FBI - 5 units operational.

UK - 1 unit for testing.





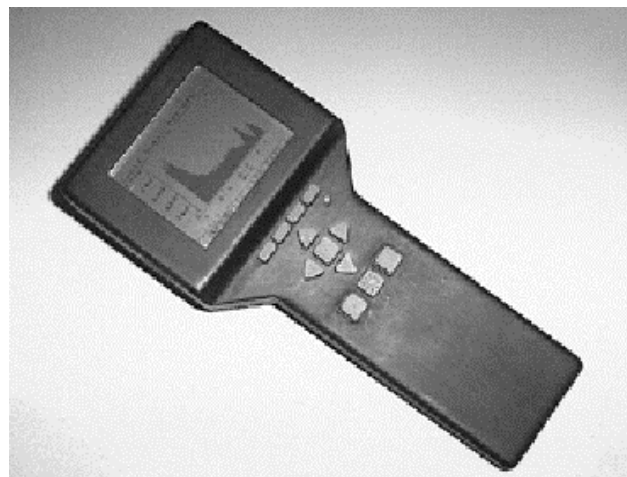
Nuclear Material Classification System

Requirement:

Ruggedized handheld detector to classify materials in a permissive environment.

Status:

**Commercially available and
Used by USCS, and
Federal, State and Local Law
Enforcement Agencies.**





Training



Solving the Training Challenge





Vision

- ✦ Develop a state-of-the-art training delivery system/architecture to provide:
 - ▶ **Synchronous, asynchronous, and on demand** WMD response training at **no/low cost** to recipients
 - ▶ **Integration** of existing, disparate DL/ADL networks
 - ▶ **Centralized access** to WMD training
 - ▶ A means to **minimize** identified WMD training **redundancy** and **shortfalls** using DL/ADL



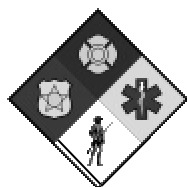
Goal

- ✦ Attain WMD response standardization and interoperability through:
 - ▶ **Accredited WMD response training program**
 - ▶ Shared use by **Federal, State, and local** WMD response elements across all disciplines
 - ▶ Ensuring a **unified effort** during operational response



Approach

- ❖ Integrate leading development activities from a number of agencies and institutions
- ❖ Establish a network of resources to train personnel anytime, anywhere



**Carnegie Mellon
RESEARCH INSTITUTE**

IUP

CTC  *Concurrent Technologies Corporation*



WMD Training Efforts

- ✦ WMD Response Training via Satellite
- ✦ WMD ADL Courseware Development
- ✦ WMD Laboratory Technician Course
- ✦ WMD Virtual University



WMD Response Training via Satellite



Requirement:

Deliver accredited WMD response training via satellite and terrestrial distance learning networks to DOD, other federal, state, and local emergency response and management personnel.

Approach:

Leverage existing and evolving Government and civilian satellite and cable broadcast networks and computer based delivery systems and technologies.

Status:

Two monthly 60 minute programs in production co-sponsored by DOJ, FEMA, and DOD:

- “Consequence Management News, Equipment, and Training (CoMNET)” objectives based news magazine.
- “Live Response” topical expert panel discussion with viewer call-in.



CoMNET (25 Oct 00)

No Picture

October 2000 CoMNET



Live Response (24 Jan 01)

No Picture

January 2001 Live Response



WMD ADL Courseware Development



Requirement:

Develop and deliver accredited WMD response training both on line and via CD-ROM.

Approach:

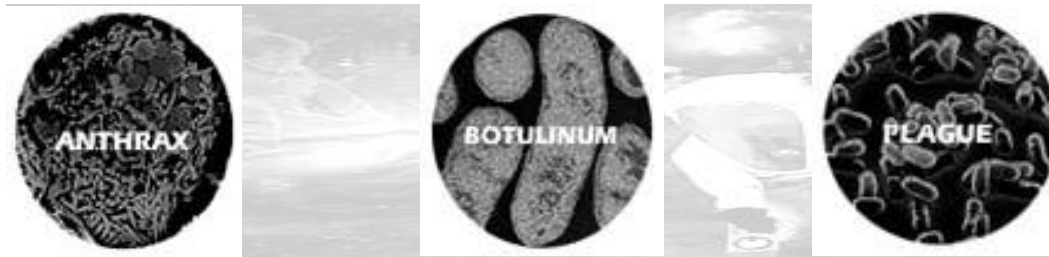
Produce the Weapons of Mass Destruction Psychological Impacts and Effects course as the model for future courseware development. Incorporate education industry instructional design best practices and standards and Advanced Distributed Learning Network (ADLNET) Sharable Content Object Reference Model (SCORM) standards.

Status:

**WMD-PIE Version 1.0 in final production.
Initial fielding to occur in late March – early April.**



WMD Laboratory Technician Course



Requirement:

Develop a training program designed to provide the novice, intermediate, apprentice, and advanced laboratory technician with knowledge, skills, and abilities comparable to those needed to work in a Chemical Surety or Biological Safety Level 3 laboratory.

Approach:

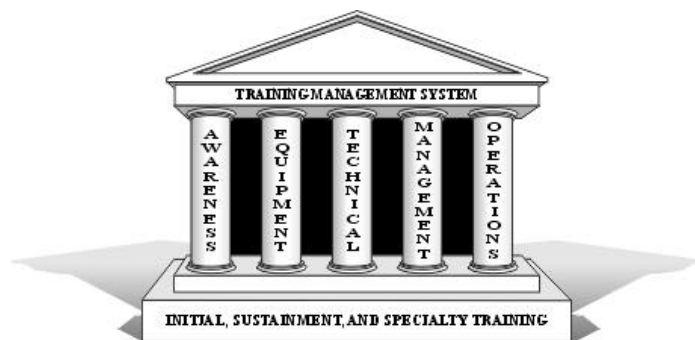
Design a modular training program focused on Chemical Surety and Biological Safety Laboratory fundamentals and procedures. Incorporate the use of standard and high end laboratory and field detection, identification, and analysis equipment.

Status:

Training requirements analysis in progress.



Virtual University



Requirement:

Develop an Internet based learning portal and virtual university to deliver WMD response training, training related products, and information to Federal, State, and local response and emergency management personnel.

Approach:

Identify a primary delivery system that incorporates the latest ADL technologies. Integrate new and existing ADL delivery systems and architectures. Provide centralized access to WMD training across disparate training delivery systems at low or no cost.

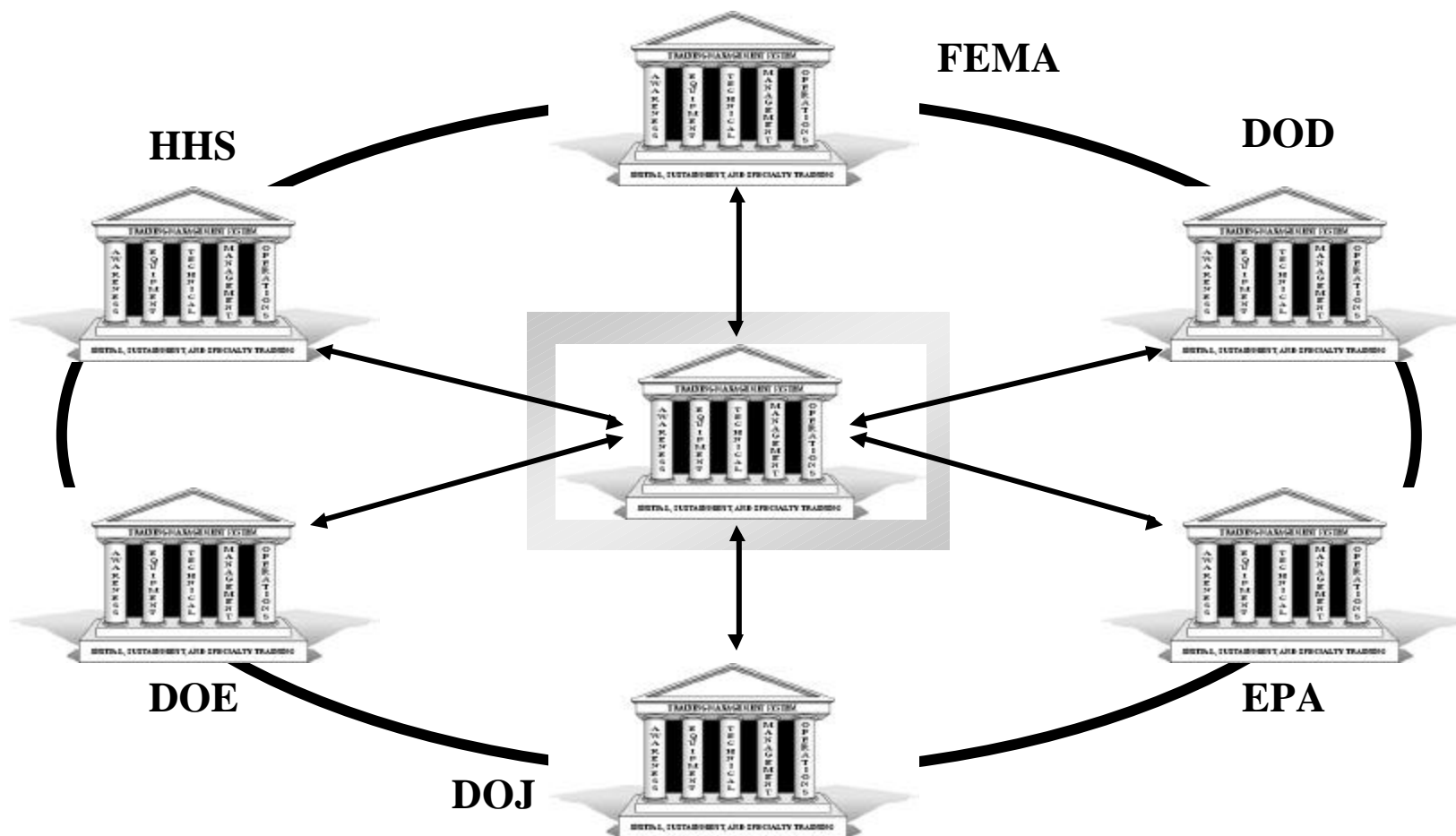
Status:

Delivery system requirements and architectures being identified and documented.

Training products being developed.



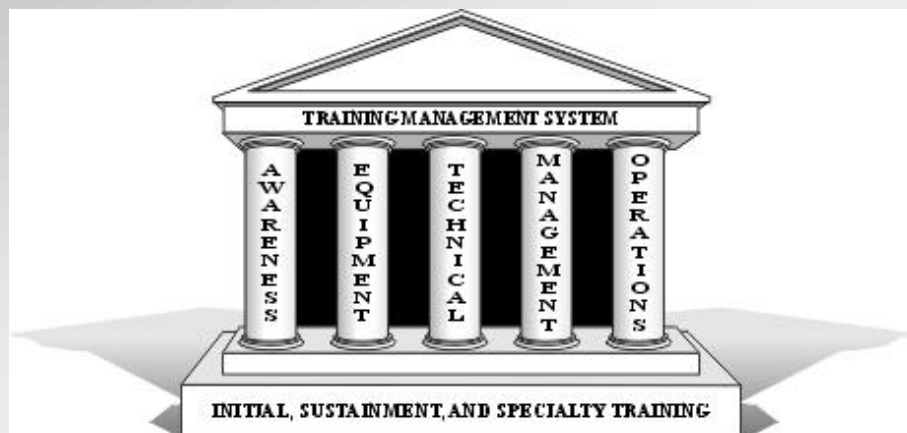
Virtual University (Concept)





Interagency WMD Response Training Program and Delivery System

COMMON WMD TRAINING STANDARD



Conventional
Training

Distance
Learning

Operational
Application

Advanced
Distributed
Learning

Interactive
Training



Summary

- ❖ Developing a common, integrated training delivery system and architecture
- ❖ Leveraging and bringing together similar Government initiatives/efforts
- ❖ Integrating current and evolving operational and training technologies
- ❖ Meeting the needs/requirements of Interagency users



QUESTIONS?